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AUTHOR(S):

Shimizu, Masaaki

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Sino-Vietnamese Readings in the 15th Century – evidence from the Chữ Nôm materials –

Shimizu Masaaki

Osaka University

qingshui@lang.osaka-u.ac.jp

Abstract: The Chữ Nôm (CN) characters contained in the Sino-Vietnamese version of Buddhist Sutra 佛說大報父母恩重經 are quite unique in that they show obvious evidence of the ancient sesqui-syllabicity of Vietnamese. This study aims to point out their utility in the study of Vietnamese history and conduct a tentative reconstruction of the Sino-Vietnamese (SV) initials in the 15th century through comparison of the CN readings and the SV readings of their phonetic components.

1 Introduction

The term *Chữ Nôm* 字喃 (CN) is usually used to denote the characters that had been used to transcribe the Vietnamese vocabulary and the Vietnamized Chinese loan words by arranging the form of Chinese characters. Some of them have a unique form different from Chinese characters that contains a phonetic component and a semantic one, whereas others have the same form as Chinese characters that contains only the phonetic component, and their original meaning is ignored. For most of the CNs, the choice of the phonetic component is completely based on the Sino-Vietnamese (SV) readings (*Cách đọc Hán Việt* 漢越音) of the Chinese characters, which means that the creation of CN is later than the formation of SV readings (Nguyễn Tài Cẩn 1985). Following the general opinion that the system of SV readings is completed in the 10th century right after the independence from China (Nguyễn Tài Cẩn 1979), the creation of CN must be later than the 10th century, and we can actually find the early examples of them in the inscription written in the 14th century (Maspero 1912, Shimizu 1998; 2010). The CN poems of Nguyễn Trãi (1380-1442) are regarded as the oldest poems written in Vietnamese.

The material used in this study is obviously older than the poems of Nguyễn Trãi and belongs to the text type called *giải âm* 解音, which is a word-for-word translation of the Chinese text into Vietnamese.

2 Data

The CN data used in this study are gathered from the Sino-Vietnamese version of the Buddhist sutra *Phật Thuyết Đại Báo Phụ Mẫu Ân Trọng Kinh* 佛說大報父母恩經, which was introduced by a number of philologists inside and outside of Vietnam. There are two

different opinions on the period of this material: one attributes it to the 15th century (Hoàng Thị Ngo 1999, Shimizu 1996), and the other attributes it to the 12th century (Nguyễn Tài Cẩn 2008, Trần Trọng Dương 2011). As for the period of its publication, I prefer the former opinion for two reasons: (1) two taboo characters are used to avoid the names of the kings in the Lê dynasty (15th century); and (2) the pictures inserted in the Vietnamese version of the sutra are exactly the same as those in the Korean version edited in 1486 and in the Japanese (Edo) version in 1643, and not earlier. Advocates of the latter opinion argue that the quite old characteristics of CN are contained in this material, that is the trace of ancient sesqui-syllabicity. However, along with the old characteristics of the CN characters therein, it also contains the new forms of the same lexical items, which can tell us the general conservativeness of the writing systems. Therefore, I still regard it as the work of the 15th century and the old characteristics of CN characters therein are the trace of the former period between the 10th and 15th centuries.

3 Method

1. Following the traditional way of reading CN texts, the whole text is transcribed into modern Vietnamese orthography called *Quốc Ngữ* 國語 scripts.

2. The phonetic component of each CN character is extracted, and its SV reading is also transcribed into *Quốc Ngữ*.

3. For convenience of comparison, look up the Middle Chinese belongings of each phonetic component, with regard to initial consonants 聲母, rhymes 韻母, grades 等, roundedness 開合, and tones 聲調.

4. Compare the CN and the SV readings of their phonetic components with the Middle Chinese initial system (Pulleyblank 1984), Proto Vietic (Ferlus 1982, 1992, 2009, 2014), 15th- to 16th-century Vietnamese (Davidson 1975, Shimizu 2008), 17th-century Vietnamese (Gregerson 1969, Shimizu 1999), and the modern dialects (Ferlus 1982).

4 Results

1,046 different forms of CN characters in total are collected and the correspondence between the CN and the SV readings of their phonetic components is outlined as follows:

4.1 Voiced/voiceless Stops and affricates 見羣/端定/幫並/知澄/精從/莊崇/章船

(1)

見母 *k-

SV ¹	CN			e.g.
k^2	k	54 ³	(335)	谷 <i>cóc</i> [谷 <i>cóc</i>] “悟” (23a2) ⁴
	g	21	(45)	丐 <i>gái</i> [丐 <i>cái</i>] “女” (8a1)
	tr	1	(90)	工 <i>trong</i> [工 <i>công</i>] “中” (9a2...)
gi	gi	5	(8)	架 <i>giá</i> [架 <i>giá</i>] “粧臺” (12a5)
	x	1	(1)	波加 <i>xa</i> [加 <i>gia</i>] “無邊” (22b1)
kh	k	2	(7)	叫 <i>kêu</i> [叫 <i>khieu</i>] “啼” (15b5...)
	g	2	(3)	𪛗 <i>gương</i> [姜 <i>khương</i>] “鏡” (12a5)
	kh	1	(1)	{昌+圭} ⁵ <i>khoẻ</i> [圭 <i>khue</i>] “健” (13a4)
h	k	1	(1)	舍恍 <i>quanh</i> [恍 <i>huang</i>] “橫事” (19b3)

羣母 *g-

k	k	17	(103)	揆 <i>côi</i> [揆 <i>quy</i>] “界” (46a3)
	g	5	(12)	瘕 <i>gây</i> [其 <i>kỳ</i>] “羸” (21a3)

端母 *t-

\dot{d}	\dot{d}	41	(168)	等 <i>đẳng</i> [等 <i>đẳng</i>] “般” (8a2...)
	d	15	(26)	怛 <i>đát</i> [怛 <i>đát</i>] “携” (16a2)
	tr	1	(1)	𪛗 <i>trói</i> [對 <i>đối</i>] “枷禁” (19b4)

定母 *d-

\dot{d}	\dot{d}	29	(157)	特 <i>đặc</i> [特 <i>đặc</i>] “凝” (8b2)
	d	8	(14)	代 <i>dạy</i> [代 <i>đại</i>] “教” (18b4...)
	tr	2	(2)	遁 <i>trốn</i> [遁 <i>đốn</i>] “逃竄” (19a5)

幫母 *p-

b	b	38	(93)	閉 <i>báy</i> [閉 <i>bé</i>] “然” (14b3)
t	t	1	(2)	并 <i>tịnh</i> [并 <i>tịnh</i>] “及” (6b5)
b	v	14	(40)	盃 <i>vui</i> [盃 <i>bôi</i>] “歡” (14a4...)
	tr	1	(34)	把 <i>bả</i> [把 <i>trả</i>] “報” (4b3...)

¹ Both the CN and the SV readings of their phonetic components are represented in Quốc Ngữ scripts.

² The Quốc Ngữ scripts are used here: k represents $c/k/q$, and ng represents ng/ngh .

³ The bare numbers denote those of different character types, and those in parentheses are the total number of occurrences in the text.

⁴ 谷: CN character, *cóc*: CN reading [谷(: phonetic component): *cóc* (SV reading)] “悟(: corresponding Chinese meaning)” (23a2(: page and line of occurrence))

⁵ In the case that CN fonts are not available, we separate the components into {A*B} for vertical and {A+B} for horizontal placement: e.g., {山*石}=岩, {石+少}=砂.

並母		*b-		
<i>b</i>	<i>b</i>	17	(144)	匍 <i>bực</i> [匍 <i>bặc</i>] “苦” (11a4)
<i>b</i>	<i>v</i>	2	(9)	婦 <i>vợ</i> [婦 <i>bị</i>] “妻” (21b3)
	<i>ph</i>	1	(1)	裴 <i>phủi</i> [裴 <i>bùi</i>] “拭” (35b3)
<i>t</i>	<i>s</i>	1	(1)	阿並 <i>sánh</i> [並 <i>tịnh</i>] “配” (14b1)
知母		*t-		
<i>tr</i>	<i>ch</i>	4	(40)	徵 <i>chung</i> [徵 <i>trung</i>] “於” (14b2...)
	<i>tr</i>	1	(1)	朝 <i>triều</i> [朝 <i>triều</i>] ”朝” (朝)
	<i>r</i>	1	(1)	趙 <i>rước</i> [卓 <i>trác</i>] “征行” (19b2)
<i>ch</i>	<i>ch</i>	2	(2)	邾 <i>chau</i> [邾 <i>chu</i>] “顰” (13b3)
澄母		*d-		
<i>tr</i>	<i>ch</i>	6	(30)	召 <i>chịu</i> [召 <i>triệu</i>] “受” (11b3)
	<i>gi</i>	6	(16)	茶 <i>già</i> [茶 <i>trà</i>] “老” (37a5)
	<i>tr</i>	2	(6)	除 <i>trừ</i> [除 <i>trừ</i>] “除” (41a1)
<i>x</i>	<i>x</i>	1	(1)	撐 <i>xanh</i> [撐 <i>xanh</i>] “翠” (15a2)
精母		*ts-		
<i>t</i>	<i>t</i>	6	(13)	卒 <i>tốt</i> [卒 <i>tốt</i>] “好” (36b3)
	<i>gi</i>	1	(1)	个井 <i>giếng</i> [井 <i>tĩnh</i>] “井” (35a3)
從母		*dz-		
<i>t</i>	<i>t</i>	9	(23)	齊 <i>tê</i> [齊 <i>tày</i>] “與等” (2a3)
莊母		*tʂ-		
<i>tr</i>	<i>ch</i>	3	(123)	庄 <i>chẳng</i> [庄 <i>trang</i>] “不” (2a4...)
	<i>tr</i>	2	(4)	債 <i>trái</i> [債 <i>trái</i>] “違” (31a2)
崇母		*dz̥-		
<i>s</i>	<i>s</i>	1	(1)	事 <i>sự</i> [事 <i>sự</i>] “事” (7a5)
	<i>th</i>	1	(1)	柴 <i>thầy</i> [柴 <i>sài</i>] “師範” (18b4)
<i>tr</i>	<i>ch</i>	1	(3)	助 <i>chữa</i> [助 <i>trợ</i>] “救” (5a1)
章母		*tʂ̥-		

<i>ch</i>	<i>ch</i>	39	(152)	沏 <i>chảy</i> [止 <i>chĩ</i>] “流” (8b2)
	<i>gi</i>	4	(6)	折 <i>giết</i> [折 <i>chiết</i>] “殺” (17b3)
<i>ch</i>	<i>x</i>	2	(4)	嗔 <i>xin</i> [真 <i>chân</i>] “須” (33b5)
	<i>k</i>	1	(1)	{个*針} <i>kim</i> [針 <i>châm</i>] “寸” (41b5)
<i>gi</i>	<i>gi</i>	1	(1)	遮 <i>giá</i> [遮 <i>già</i>] “擁護” (30b2)
	<i>ch</i>	2	(4)	遮 <i>chê</i> [遮 <i>già</i>] “嗔呵” (21a3)

船母 *dz-

<i>x</i>	<i>x</i>	1	(1)	麝 <i>xạ</i> [麝 <i>xạ</i>] “麝” (8a1)
	<i>th</i>	1	(5)	蛇 <i>thà</i> [蛇 <i>xà</i>] “寧” (31a1)
<i>th</i>	<i>th</i>	3	(8)	舌 <i>thịt</i> [舌 <i>thiệt</i>] “肉” (29b5)

4.2 Aspirated stops and affricates 溪透滂徹清初昌

(2)

溪母 *k^h-

<i>kh</i>	<i>kh</i>	22	(78)	恪 <i>khác</i> [恪 <i>khác</i>] “他” (19a5)
	<i>g</i>	3	(3)	阿枯 <i>gô</i> 枯 <i>khô</i> “打” (27a2)
	<i>th</i>	1	(15)	課 <i>thuở</i> [課 <i>khoá</i>] “時” (33b5)
	<i>r</i>	1	(1)	曠 <i>rộng</i> [曠 <i>khoáng</i>] “廣” (6a5)

透母 *t^h-

<i>th</i>	<i>th</i>	16	(59)	体 <i>thấy</i> [体 <i>thể</i>] “見” (4b1)
<i>đ</i>	<i>đ</i>	1	(19)	拖 <i>đà</i> [拖 <i>đà</i>] “已” (4b4)
	<i>d</i>	1	(2)	脍 <i>dạ</i> [拖 <i>đà</i>] “胃” (29b5)

滂母 *p^h-

<i>ph</i>	<i>ph</i>	7	(17)	沛 <i>phải</i> [沛 <i>phải</i>] “是” (7b4)
	<i>v</i>	3	(11)	丕 <i>phi</i> [丕 <i>vây</i>] “斯” (19b2)

徹母 *t^h-

<i>s</i>	<i>s</i>	2	(3)	逞 <i>sính</i> [逞 <i>sính</i>] “欲” (16b4)
<i>x</i>	<i>x</i>	1	(1)	丑 <i>xú</i> [丑 <i>xấu</i>] “醜” (21b3)

清母 *ts^h-

<i>th</i>	<i>th</i>	5	(14)	切 <i>thét</i> [切 <i>thiết</i>] “欺抑” (21a4)
	<i>x</i>	2	(2)	崔 <i>xui</i> [崔 <i>thôi</i>] “被” (19a5)

<i>x</i>	<i>x</i>	1	(1)	侵 <i>xâm</i> [侵 <i>xâm</i>] “侵” (12b5)
初母 *tʂʰ-				
<i>s</i>	<i>x</i>	2	(13)	初 <i>xua</i> [初 <i>so</i>] “先” (5a2)
昌母 *tʂʰ-				
<i>x</i>	<i>x</i>	11	(37)	昌 <i>xuong</i> [昌 <i>xuong</i>] “骨” (7a1)

4.3 Velar fricatives 曉匣

(3)

曉母 *x-				
<i>h</i>	<i>h</i>	21	(137)	哈 <i>hay</i> [哈 <i>hai</i>] “能” (5b4)
	<i>zero</i>	2	(2)	呵 <i>o</i> [呵 <i>ha</i>] “非” (30b5)
匣母 *ɣ-				
<i>h</i>	<i>h</i>	28	(92)	酣 <i>hôm</i> [酣 <i>hâm</i>] “暮” (37a2)
	<i>ng</i>	1	(1)	{苦+曷} <i>ngắt</i> [曷 <i>hạt</i>] “微嗔” (22a1)
<i>nh</i>	<i>nh</i>	1	(1)	閑 <i>nhân</i> [閑 <i>nhàn</i>] “所以” (8b3)

4.4 Dental fricatives 心邪書生禪

(4)

心母 *s-				
<i>t</i>	<i>t</i>	30	(103)	搥 <i>tay</i> [思 <i>tư</i>] “手” (11a2)
	<i>r</i>	8	(14)	索 <i>rách</i> [索 <i>tác</i>] “裂” (29b5)
	<i>x</i>	1	(1)	{羞*火} <i>xấu</i> [羞 <i>tu</i>] “羞恥” (21a3)
<i>s</i>	<i>t</i>	1	(7)	珊 <i>tan</i> [珊 <i>san</i>] “消” (43b3)
	<i>s</i>	1	(1)	薩 <i>sát</i> [薩 <i>sát</i>] “悶絕” (22b4)
邪母 *z-				
<i>t</i>	<i>t</i>	5	(7)	似 <i>tựa</i> [似 <i>tự</i>] “象於” (14b1)
書母 *ʃ-				
<i>th</i>	<i>th</i>	15	(80)	燒 <i>theo</i> [燒 <i>thieu</i>] “隨” (36b1)
	<i>x</i>	2	(2)	拭 <i>xức</i> [拭 <i>thức</i>] “施” (15a1)
<i>x</i>	<i>x</i>	1	(4)	舍 <i>xá</i> [舍 <i>xá</i>] “願” (6a5)

生母	*ɬ-			
<i>s</i>	<i>s</i>	7	(29)	莎 <i>sa</i> [沙 <i>sa</i>] “墮” (29a1)
<i>s</i>	<i>th</i>	2	(34)	疎 <i>sơ</i> [疎 <i>thura</i>] “白” (7a2)
禪母	*ʐ-			
<i>th</i>	<i>th</i>	7	(40)	臣 <i>thần</i> [臣 <i>thần</i>] “旦” (42a2)

4.5 Labial fricatives 非敷奉微

(5)

非母	*f-			
<i>ph</i>	<i>ph</i>	7	(18)	法 <i>pháp</i> [法 <i>pháp</i>] “法” (2b1)
	<i>b</i>	2	(2)	法 <i>bếp</i> [法 <i>pháp</i>] “竈” (35a4)
敷母	*fʰ-			
<i>ph</i>	<i>ph</i>	2	(7)	番 <i>phen</i> [番 <i>phan</i>] “回” (8b2)
奉母	*v-			
<i>ph</i>	<i>ph</i>	2	(2)	奉 <i>phụng</i> [奉 <i>phụng</i>] “奉行” (32a3)
微母	*mv-			
<i>v</i>	<i>v</i>	3	(3)	{尾+个} <i>vậy</i> [尾 <i>vĩ</i>] “攪” (11a4)

4.6 Nasals 疑泥孃明

(6)

疑母	*ŋ-			
<i>ng</i>	<i>ng</i>	34	(168)	宜 <i>nghe</i> [宜 <i>nghe</i>] “聽” (5b3...)
泥母	*n-			
<i>n</i>	<i>n</i>	41	(337)	尼 <i>ni</i> [尼 <i>nay</i>] “今” (2a4)
孃母	*ŋ-			
<i>n</i>	<i>n</i>	2	(4)	娘 <i>nuong</i> [娘 <i>nuong</i>] “依” (21b4)
明母	*m-			
<i>m</i>	<i>m</i>	75	(349)	闍 <i>muôn</i> [門 <i>môn</i>] “萬” (3a3)
	<i>v</i>	3	(10)	叢 <i>vê</i> [迷 <i>mê</i>] “販” (5b1)

	<i>d</i>	1	(1)	閩 <i>dần</i> [閩 <i>mân</i>] “漸漸” (19a3)
	<i>r</i>	1	(1)	{覓+多} <i>rách</i> [覓 <i>mịch</i>] “悶絕” (13a2)
<i>d</i>	<i>d</i>	1	(4)	名 <i>danh</i> [名 <i>danh</i>] “名狀” (11a4)

4.7 Other consonants 來日影云以

(7)

來母 *l-

<i>l</i>	<i>l</i>	60	(330)	弄 <i>lòng</i> [弄 <i>lộng</i>] “心” (5b5...)
	<i>s</i>	27	(57)	牢 <i>sao</i> [牢 <i>lao</i>] “如何” (8a3...)
	<i>tr</i>	39	(88)	連 <i>trên</i> [連 <i>liên</i>] “上” (10b1)
	<i>r</i>	28	(78)	浪 <i>rằng</i> [浪 <i>lăng</i>] “言” (7a2...)
	<i>x</i>	1	(1)	多凌 <i>xăng</i> [凌 <i>lăng</i>] “糊蒲” (20b4)
	<i>d</i>	1	(1)	波凌 <i>dênh</i> [凌 <i>lăng</i>] “臃脹” (20a2)

日母 *ɲ-

<i>nh</i>	<i>nh</i>	22	(114)	饒 <i>nhau</i> [饒 <i>nhieu</i>] “相” (37a1)
	<i>ng</i>	1	(1)	繞 <i>ngheo</i> [繞 <i>nhieu</i>] “微嗔” (22a1)
	<i>n</i>	1	(1)	恁 <i>ném</i> [恁 <i>nhâm</i>] “啜味”(36a2)

影母 *ʔ-

<i>zero</i>	<i>zero</i>	35	(323)	衣 <i>áy</i> [衣 <i>y</i>] “是” (2a4)
	<i>h</i>	2	(5)	謁 <i>hét</i> [謁 <i>yét</i>] “亦” (4b1)
<i>nh</i>	<i>nh</i>	1	(8)	因 <i>nhân</i> [因 <i>nhân</i>] “由” (19b2...)

云母 *w-

<i>v</i>	<i>v</i>	8	(44)	衛 <i>vê</i> [衛 <i>vệ</i>] “歸” (7a3...)
<i>h</i>	<i>h</i>	3	(3)	矣 <i>hời</i> [矣 <i>hỹ</i>] “嗚呼” (34a5)

以母 *j-

<i>d</i>	<i>d</i>	28	(98)	曳 <i>dây</i> [曳 <i>duệ</i>] “起” (17b1)
	<i>gi</i>	4	(5)	與 <i>giũa</i> [與 <i>dữ</i>] “中” (29b2)
	<i>nh</i>	4	(7)	咍 <i>nhà</i> [也 <i>dã</i>] “吐” (13b1)
	<i>đ</i>	1	(32)	多 <i>đi</i> [移 <i>di</i>] “往” (3a4)
	<i>x</i>	1	(7)	可耶 <i>xa</i> [耶 <i>da</i>] “遠” (12a1)
	<i>v</i>	1	(3)	役 <i>việc</i> [役 <i>dịch</i>] “事” (19a1)

5 Analysis

Among the previous studies on SV readings, only Ferlus (1992) refers to its status in the historical phonology from Proto Vietic to modern dialects, while others consider its status from MC to modern Vietnamese. Here we follow the reconstruction of the PV system by Ferlus (1982, 1992, 2009, 2016) and attempt to reconsider the historical process of SV initials proposed by Ferlus (1992).

5.1 Voiced and voiceless contrast in SV initials

Modern SV readings basically do not distinguish the Middle Chinese (MC) voiced and voiceless initials (見/羣, 端/定, 幫/並, 知/澄, 精/從, 心/邪) with different consonants but they do with different tones as follows:

(8)

SV Tones	平	上	去	入
(*voiceless initials >) High	1 a	3 ǎ	5 á	7 át
(*voiced initials >) Low	2 à	4 ǎ̃	6 ǎ	8 ǎt

We suppose, if the same situation is the case in the 15th century, the CN readings can also be separated into high and low tones according to the MC initial voicedness. The results are as follows:

(9)

Initial	Tone	ㄘ	Sum												
見	1	29		羣	1	0		端	1	16		定	1	1	
*k	3	15		*g	3	0		*t	3	7		*d	3	1	
	5	24			5	0			5	21			5	2	
	7	12	80		7	0	0		7	10	54		7	0	4
	2	5			2	10			2	1			2	18	
	4	1			4	4			4	0			4	3	
	6	2			6	3			6	2			6	6	
	8	0	8		8	5	22		8	0	3		8	8	35
幫	1	13		並	1	2		知	1	5		澄	1	1	
*p	3	8		*b	3	1		*t	3	0		*d	3	0	
	5	18			5	2			5	0			5	0	

	7	7	46		7	0	5		7	3	8		7	0	1
	2	3			2	6			2	0			2	8	
	4	1			4	0			4	0			4	2	
	6	3			6	5			6	0			6	3	
	8	1	8		8	5	16		8	0	0		8	1	14
精	1	2		從	1	0			心	1	18		邪	1	0
*ts	3	0		*dz	3	0				3	2			3	0
	5	2			5	0				5	15			5	0
	7	3	7		7	0	0			7	6	41		7	0
	2	0			2	6				2	0			2	2
	4	0			4	0				4	0			4	0
	6	0			6	3				6	0			6	2
	8	0	0		8	0	9			8	0	0		8	1

We can safely say that, in general, MC voiceless initials are chosen to transcribe the Vietnamese syllables with high tones and the voiced initials with low tones, which indicates that SV initials in the 15th century did not distinguish the voiced and voiceless contrast, just as they do not in the modern SV.

The voiced or voiceless value of them are tentatively supposed as follows:

- (10) 見羣 /*k/ (*k*) 端端 /*d/ (*d*) 幫並 /*b/ (*b*) 知澄 /*t/ (*tr*)
精從 /*s/ (*t*) 心邪 /*s/ (*t*)

The SV reading *k* of both 見 and 羣 initials is equally chosen to transcribe the Vietnamese *k* and *g* initials, for which we can find no evidence of voicing throughout their history: (PV) *k-g > (15-16C) k > (17C) k > (Modern) k.

The SV reading *d* of both 端 and 端 initials is chosen to transcribe the Vietnamese *d*, which maintained its voiced value throughout its history: *j > j > ð > z(in North)/j(in Central and South) and *t-d > ð > ð > z/j.

The SV reading *tr* of both 知 and 澄 initials is chosen to transcribe the Vietnamese *ch*, which maintained its voiceless value: *c-j > c > c > c.

The SV reading *t* of 精從心邪 initials is equally chosen to transcribe the Vietnamese *t*, which maintained its voiceless value throughout its history: *s > t > t > t. As for its fricative value, we will discuss it in 5.2.1.

5.2 Reconstruction of 精組 and 章組 initials

5.2.1 精從心邪 initials

The SV reading *t* of 精從心邪 initials is equally chosen to transcribe Vietnamese *t*. As for the 心 initial, it is also chosen for Vietnamese *r*. The latter choice is only possible when the $*s > t$ process had not occurred for SV *t* and when $*s > r$ had not occurred for the Vietnamese vocabulary with the *r* initial (Shimizu 2015). In (4), we provide one example of this case: 索 *rách* [索 *tác*] “裂” (29b5)

5.2.2 章組 and 清 initials

The MC 章 initial has maintained its original value $/*c/$ until the stage of modern dialects.

The SV reading *th* of 船書禪清 initials is equally chosen to transcribe Vietnamese *th*. As for 書 and 清 initials, the same reading is also used to transcribe the Vietnamese *x*. The latter choice can occur only when $*\epsilon > t^h$ in SV *th* had not occurred and $*t^h > \epsilon$ in the Vietnamese vocabulary with the *x* initial had already occurred. The occurrence of $*t^h > \epsilon$ must have been the case for the SV reading *x* of 昌 initial, which is chosen to transcribe the Vietnamese vocabulary with the *x* initial.

The following reconstruction is proposed:

- (11) 章 $/*c/$ (*ch*) 船書禪清 $/*\epsilon/$ (*th*) 昌 $/*(t^h >) \epsilon/$ (*x*)

6 Conclusions

Through the analysis above and others, the following system of SV initials in the 15th century is proposed 8:

- (12) 見羣 $/*k/$ (*k*) 端定 $/*d/$ (*d*) 幫並 $/*b/$ (*b*) 精從心邪 $/*s/$ (*t*)
見_二 $/*(k_j)/$ (*gi*) 幫並_{三A} $/*(ps)/$ (*t*)
章 $/*c/$ (*ch*) 船書禪清 $/*\epsilon/$ (*th*) 昌 $/*(t^h >) \epsilon/$ (*x*)
溪 $/*k^h/$ (*kh*) 透 $/*t^h/$ (*th*) 滂 $/*p^h/$ (*ph*)
知澄莊 $/*t/$ (*tr*) 崇徹初生 $/*\varsigma/$ (*s*)
曉匣 $/*h/$ (*h*)
非敷奉 $/*f/$ (*ph*) 微云 $/*w/$ (*v*)
疑 $/*\eta/$ (*ng*) 泥孃 $/*n/$ (*n*) 明 $/*m/$ (*m*)
來 $/*l/$ (*l*) 日疑_二影_{三A} $/*p/$ (*nh*) 影 $/*ʔ/$ (*#*)
以明_{三A} $/*j/$ (*d*)

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PV	MC	15C	15-16C	17C	Mod (N/CS)
p ^h	p ^h (滂)	p ^h	p ^h	p ^h (<i>ph</i>)	f (<i>ph</i>)
p-b	{ p-b (幫並)	ḡ	ḡ	ḡ (<i>b</i>)	ḡ (<i>b</i>)
		ϕ > β	β	β (<i>/b/bě</i>)	v (<i>v</i>)
	{ f ^h (敷) f-v (非奉)	p ^h	p ^h	p ^h (<i>ph</i>)	f (<i>ph</i>)
	p ^h j (滂 _{≡A})	?	ɛ/tɛ	t ^h (<i>th</i>)	t ^h (<i>th</i>)
	pj-bj (幫並 _{≡A})	(ps)	t	t (<i>t</i>)	t (<i>t</i>)
	t ^h (透)	t ^h	t ^h	t ^h (<i>th</i>)	t ^h (<i>th</i>)
t-d	{ t-d (端定)	d ^ʰ	d ^ʰ	d ^ʰ (<i>ḑ</i>)	d ^ʰ (<i>ḑ</i>)
		ḑ	ḑ	ḑ (<i>d/dě</i>)	z/j (<i>d</i>)
	tsh (清)	ɛ	ɛ/tɛ	t ^h (<i>th</i>)	t ^h (<i>th</i>)
	ts-dz (精從)	s	t	t (<i>t</i>)	t (<i>t</i>)
s	{ s-z (心邪)	s	t	t (<i>t</i>)	t (<i>t</i>)
		s > ʈ	ʈ	r (<i>r</i>)	z/r (<i>r</i>)
	{ t ^h (徹)	(tʃ >) ɛ	(tʃ >) ɛ	ɛ (<i>x</i>)	s (<i>x</i>)
		ʃ	ʃ	ʃ (<i>s</i>)	s/ʃ (<i>s</i>)
	t-ʈ (知澄)	ʈ	ʈ	ʈ (<i>tr</i>)	c/t (<i>tr</i>)
	tʃ ^h (初)	ʃ	ʃ	ʃ (<i>s</i>)	s/ʃ (<i>s</i>)
	{ (tʃ >) ɛ	(tʃ >) ɛ	(tʃ >) ɛ	ɛ (<i>x</i>)	s (<i>x</i>)
	tʃ (莊)	ʈ	ʈ	ʈ (<i>tr</i>)	c/t (<i>tr</i>)
	ʃ-z (生崇)	ʃ	ʃ	ʃ (<i>s</i>)	s/ʃ (<i>s</i>)
	tɕ ^h (昌)	(tʃ >) ɛ	(tʃ >) ɛ	ɛ (<i>x</i>)	s (<i>x</i>)
tʃ	{	(tʃ >) ɛ	(tʃ >) ɛ	ɛ (<i>x</i>)	s (<i>x</i>)
		?	j	j (<i>gi</i>)	z/j (<i>gi</i>)

PV	MC	15C	15-16C	17C	Mod (N/CS)
c-j	te (章)	c	c	c (<i>ch</i>)	c (<i>ch</i>)
		ç>j	j	j (<i>gi</i>)	z/j (<i>gi</i>)
	ɛ-z (書禪船)	ɛ	ɛ/te	t ^h (<i>th</i>)	t ^h (<i>th</i>)
	k ^h (溪)	k ^h	k ^h	k ^h (<i>kh</i>)	k ^h (<i>kh</i>)
k-g	k-g (見羣)	k	k	k (<i>c/k/q</i>)	k (<i>c/k/q</i>)
		x>ɣ	ɣ	ɣ (<i>g/gh</i>)	ɣ (<i>g/gh</i>)
	x-ɣ (曉匣)	h	h	h (<i>h</i>)	h (<i>h</i>)
	k ^h j (溪 _二)	?	(tʃ>)ɛ	ɛ (<i>x</i>)	s (<i>x</i>)
kj	kj (見 _二)	kj	kj	j (<i>gi</i>)	z/j (<i>gi</i>)
ʔ	ʔ (影)	ʔ	ʔ	ʔ (#)	ʔ (#)
h		h	h	h (<i>h</i>)	h (<i>h</i>)
ɓ		ʔm	m	m (<i>m</i>)	m (<i>m</i>)
dʰ		ʔn	n	n (<i>n</i>)	n (<i>n</i>)
f	ʔj (影 _{三A})	ɲ	ɲ	ɲ (<i>nh</i>)	ɲ (<i>nh</i>)
m	m (明)	m	m	m (<i>m</i>)	m (<i>m</i>)
n	n (泥)	n	n	n (<i>n</i>)	n (<i>n</i>)
	ɳ (孃)				
ɲ	ɲ (日)	ɲ	ɲ	ɲ (<i>nh</i>)	ɲ (<i>nh</i>)
	ɲj (疑 _二)				
ŋ	ŋ (疑)	ŋ	ŋ	ŋ (<i>ng/ngh</i>)	ŋ (<i>ng/ngh</i>)
	mv (微)	w	w	w (<i>u/v</i>)	v (<i>v</i>)
w	w (云)				
j	j (以)	j	Ǿ	Ǿ (<i>d/dě</i>)	z/j (<i>d</i>)
	mj (明 _{三A})				
r		r	r	r (<i>r</i>)	r (<i>r</i>)
l	l (來)	l	l	l (<i>l</i>)	l (<i>l</i>)
C+r		C+r	C+r>ks	ɣ (<i>s</i>)	s/ɣ (<i>s</i>)
C+l		C+l	C+l	tl/t (<i>tl/tr</i>)	c/t (<i>tr</i>)
			North: ɓl	ɓl (<i>bl</i>)	z (<i>gi</i>)
ml		ml	ml	ml/p/ (<i>ml/nh/</i> mp <i>mnh</i>)	ɲ (<i>nh</i>)